WHAT IS CLAIMED IS:

1. A method for preventing or minimizing operational failures in a technical installation, comprising:

defining at least one criterion in accordance with influence quantities that are accessible by a control system of the technical installation, wherein a presence of the criterion constitutes a forecast of at least one of an impending operational impairment and an impending failure of the technical installation or of components of the technical installation;

monitoring the criterion at defined time intervals so as to establish a probability forecast of the impending operational impairment or of the impending failure; and

in accordance with the probability forecast, at least one of:

(a) implementing or prompting to implement early countermeasures to prevent the impending operational impairment or the impending failure; and

(b) implementing steps to minimize effects of the impending operational impairment or the impending failure;

wherein the criterion is derived from the influence quantities such that irregularities in the technical installation are detected before any of the influence quantities exceeds a limit that requires an immediate shutdown of the technical installation or of at least one of the components of the technical installation;

wherein, in accordance with current installation quantities of the technical installation, the criterion is determined in real-time by the control system;

wherein, the criterion is implemented in a function block, which is, in addition to a control program, stored in a programmable controller; and

wherein an expected failure of the technical installation or of the at least one of the components of the technical installation is signaled to a control-and-monitoring station.

2. The method as claimed in claim 1, wherein the defined time intervals at which the criterion is monitored are less than one second each.

3. The method as claimed in claim 1, wherein the criterion is monitored at defined points in time.

4. The method as claimed in claim 1, wherein the criterion is processed in cyclical or event-driven manner in a computation cycle of an automation system.

5. The method as claimed in claim 1, wherein change trends of at least one of the influence quantities are taken into account when monitoring the criterion.

6. The method as claimed in claim 1, wherein, when the criterion is monitored, plausibility analyses are conducted between at least two of the influence quantities.

7. The method as claimed in claim 1, wherein, when the probability forecast is established, a remaining runtime of the technical installation, or of a part of the technical installation, or of the components of the technical installation affected by the impending operational impairment or the impending failure is estimated.

8. The method as claimed in claim 1, wherein, when the probability forecast is established, a degree of the impending operational impairment of the technical installation as a result of the impending failure is estimated so as to determine a type of at least one of the countermeasures and the steps.

9. The method as claimed in claim 1, wherein a probable cause of the failure and, where applicable, the effects of the failure on parts of the technical installation or on the components of the technical installation are determined so as to immediately request resources that are expected to be required, if these resources are not available.

10. The method as claimed in claim 9, wherein the resources are selected from the group consisting of replacement parts, personnel, and material.

11. The method as claimed in claim 1, wherein the criterion is implemented in an evaluation program of the control-and-monitoring station, and wherein the criterion is processed in cyclical or event-driven manner.

12. A method, comprising:

measuring actual values relating to an operation of components of a technical installation;

determining a criterion value from the measured actual values in real-time so as to detect irregularities in the technical installation before any of the actual values reach a value outside a respective allowed range for the actual values; and

based on the criterion value, forecasting a probability of failure of the technical installation or of at least one of the components thereof;

wherein the criterion value is implemented in a function block that is stored in a programmable controller; and

wherein an expected failure of the technical installation or of the at least one of the components thereof is reported to a control-and-monitoring station.